IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

- 1. (Previously Presented) A method for generating a spot for use in
- 2 halftoning, comprising:
- defining a spot function that combines two functions selected to provide
- 4 asymmetrically changing of the shape of a spot for use in a halftone cell;
- scaling the spot function according to grayscale levels using a parameterized spot
- 6 radius scaling function that varies according to a value of a first and second spot function
- 7 ordinate and an asymmetric shape changing scaling function based on a gray level for the
- 8 spot, and
- 9 printing using the scaled spot function;
- wherein the spot function is described by:

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$$f(x,y) = \frac{1}{2} \left(\cos(\pi x/p_x) + \frac{1}{S(p,r)} \cos(\pi y/p_y) \right)$$

- where x and y are the first and second spot function ordinates, p_x scales ordinate x, p_y scales
- ordinate y, p is a spot shape parameter for controlling the shape of the spot, S(p,r) is a scaling
- 14 function, and r is the radius of the spot.
- 1 2. (Previously Presented) The method of claim 1, wherein the two
- 2 functions allow non-separable changes in spot shape.
- 1 3. (Canceled)
- 1 4. (Canceled)

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- 1 5. (Previously Presented) The method of claim 1, wherein the scaling
- 2 function, S(p,r), is described by:

3
$$S(p,r) = 1 + \frac{1}{p_m \sqrt{2\pi}} \exp\left(-\frac{\left(r/\sqrt{2} - 1/2\right)^2}{2p^2}\right),$$

- 4 where p_m sets a maximum ellipticity of the spot.
- 1 6. (Canceled)

- 7. (Previously Presented) A printing system, comprising:
- a control unit for receiving a print file and processing the print file for printing;
- a print head for conveying a print job according to the print file; and
- a device for generating a spot for use in halftoning wherein the halftoning reproduces
- 5 an image defined by the print file using the print head, the device defines a spot function that
- 6 combines two functions selected to provide asymmetrically changing of the shape of a spot
- 7 for use in a halftone cell and scales the spot function according to grayscale level using a
- 8 parameterized spot radius scaling function that varies according to a value of a first and
- 9 second spot function ordinate and an asymmetric shape changing scaling function based on a
- 10 gray level for the spot,
- wherein the spot function used by the device is described by:

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$$f(x,y) = \frac{1}{2} \left(\cos(\pi x/p_x) + \frac{1}{S(p,r)} \cos(\pi y/p_y) \right)$$

- where x and y are the first and second spot function ordinates, p_x scales ordinate x, p_y scales
- ordinate y, p is a spot shape parameter for controlling the shape of the spot, S(p,r) is a scaling
- 15 function, and r is the radius of the spot.
- 1 8. (Previously Presented) The printing system of claim 7, wherein the two
- 2 functions allow non-separable changes in spot shape.
- 1 9. (Canceled)
- 1 10. (Canceled)

- 1 11. (Previously Presented) The printing system of claim 7, wherein the
- 2 scaling function, S(p,r), is described by:

3
$$S(p,r) = 1 + \frac{1}{p_m \sqrt{2\pi}} \exp\left(-\frac{\left(r/\sqrt{2}-1/2\right)^2}{2p^2}\right),$$

- 4 where p_m sets a maximum ellipticity of the spot.
- 1 12. (Canceled)
- 1 13. (Previously Presented) The printing system of claim 7, wherein the
- device is a hardware card disposed between the control unit and the print head.
- 1 14. (Previously Presented) The printing system of claim 7, wherein the
- 2 device is a hardware card disposed within the control unit.
- 1 15-16. (Canceled)

- 1 17. (Previously Presented) A program storage medium readable by a
- 2 computer, the medium tangibly embodying one or more programs of instructions executable
- 3 by the computer to perform halftoning an image by:
- 4 defining a spot function that combines two functions selected to provide
- 5 asymmetrically changing of the shape of a spot for use in a halftone cell;
- scaling the spot function according to grayscale level using a parameterized spot
- 7 radius scaling function that varies according to a value of a first and second spot function
- 8 ordinate and an asymmetric shape changing scaling function based on a gray level for the
- 9 spot, and
- printing using the scaled spot function;
- wherein the spot function is described by:

12
$$f(x,y) = \frac{1}{2} \left(\cos(\pi x/p_x) + \frac{1}{S(p,r)} \cos(\pi y/p_y) \right)$$

- where x and y are the first and second spot function ordinates, p_x scales ordinate x, p_y scales
- ordinate y, p is a spot shape parameter for controlling the shape of the spot, S(p,r) is a scaling
- 15 function, and r is the radius of the spot.
- 1 18. (Currently Amended) The program storage device medium of claim 17,
- wherein the two functions allow non-separable changes in spot shape.
- 1 19. (Canceled)
- 1 20. (Canceled)

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- 1 21. (Currently Amended) The program storage device medium of claim 17,
- wherein the scaling function, S(p,r), is described by:

3
$$S(p,r) = 1 + \frac{1}{p_m \sqrt{2\pi}} \exp\left(-\frac{\left(r/\sqrt{2} - 1/2\right)^2}{2p^2}\right),$$

- 4 where p_m sets a maximum ellipticity of the spot.
- 1 22. (Canceled)

- 1 23. (Previously Presented) A printing system, comprising:
- 2 means for receiving a print file and processing the print file for printing;
- means for conveying a print job according to the print file; and
- 4 means for generating a spot for use in halftoning wherein the halftoning reproduces an
- 5 image defined by the print file using the print head, the means for generating a spot defines a
- 6 spot function that combines two functions selected to provide asymmetrically changing of the
- shape of a spot for use in a halftone cell and scales the spot function according to grayscale level
- 8 using a parameterized spot radius scaling function that varies according to a value of a first and
- 9 second spot function ordinate and an asymmetric shape changing scaling function based on a
- 10 gray level for the spot,
- wherein the spot function is described by:

12
$$f(x,y) = \frac{1}{2} \left(\cos(\pi x / p_x) + \frac{1}{S(p,r)} \cos(\pi y / p_y) \right)$$

- where x and y are the first and second spot function ordinates, p_x scales ordinate x, p_y scales
- ordinate y, p is a spot shape parameter for controlling the shape of the spot, S(p,r) is a scaling
- 15 function, and r is the radius of the spot.